



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/007,494 )  
Applicants: Kirk Giboney et al. ) Art Unit: 2874  
Filed: November 13, 2001 ) Examiner: Daniel Petkovsek  
Confirmation No.: 2267 )

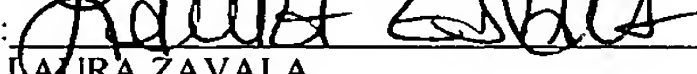
Title: OPTICAL DEVICE, ENCLOSURE AND METHOD OF FABRICATING

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Date of Deposit: April 16, 2004

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LAURA ZAVALA

Dear Sir:

**APPELLANTS' BRIEF (37C.F.R. 1.192)**

This brief is in furtherance of the Notice of Appeal filed in this case on  
February 17, 2004.

The fee required under § 1.17(c) is dealt with in the accompanying  
TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate (37 C.F.R. 1.192(a)).

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**REAL PARTIES IN INTEREST**

The real party in interest in this matter is Agilent Technologies, Inc., a Delaware corporation having its principal place of business in Palo Alto, California.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the present appeal.

**STATUS OF CLAIMS**

**A. TOTAL NUMBER OF CLAIMS IN APPLICATION**

The claims in this application are Claims 1-33.

**B. STATUS OF ALL CLAIMS IN APPLICATION**

1. Claims canceled: None
2. Claims withdrawn from consideration: None
3. Claims pending: 1-33
4. Claims allowed: None
5. Claims objected to but indicated as containing allowable subject matter  
16-18, 21, 23 and 24
6. Claims rejected: 1-15, 19-20, 22 and 25-33

### **STATUS OF AMENDMENTS**

An Amendment after Final Rejection was mailed on December 15, 2003, and received by the Patent and Trademark Office on December 19, 2003. An Advisory Action was mailed on January 22, 2004. In the Advisory Action, the Examiner stated that the proposed amendments would not be entered because "they raise new issues that would require further consideration and/or search"; and because "they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal"

### **SUMMARY OF INVENTION**

NOTE: In this "Summary of Invention" and in the following "Argument", all references to page and line numbers are with respect to the Substitute Specification enclosed with an Amendment mailed on January 29, 2003, and received by the Patent and Trademark Office on February 5, 2003.

The present invention is directed to an enclosure for an optical communications device that joins the optical communications device to a connector of an optical cable. An exemplary embodiment is illustrated in Figure 2A and is described beginning at page 8, line 3 and extending to page 9, line 7. The enclosure (210) includes lid portion (214) having focusing elements (224) and base portion (212). Lid portion (214) and base portion (212) are affixed and receive at least a portion of an optical communications device (217) therebetween. At least one alignment member (222) is formed on lid portion (214) and is adapted to interface with connector (221) to align connector (221) relative to lid portion (214). In the exemplary embodiment illustrated in Figure 2A of the present application, the at least one alignment member (222) comprises a pair of pins provided on lid portion (214) of

enclosure (210).

A known optical interconnect module is illustrated in Figure 1, and is described beginning at page 3, line 1 and extending to page 3, line 19. The known module (10) includes lid portion (12) having focusing elements (24) and base portion (14). Alignment members (26) are formed on base portion (14) and extend through apertures (30) in lid portion (12) to interface with connector (17).

As described beginning at page 3, line 20 and extending to page 4, line 6, the known optical interconnect module illustrated in Figure 1 and having alignment members formed on the base portion thereof, requires a multi-step machining process that is costly and time consuming. The present invention forms at least one alignment member on the lid portion, and can be manufactured by various procedures that reduce the required number of high precision manufacturing steps. For example, in the exemplary embodiment illustrated in Figures 5A and 5B, alignment members (222) are prefabricated and affixed to substrate (228). In the exemplary embodiment illustrated in Figure 6, alignment member (222) is formed integral with substrate (228). In the embodiment illustrated in Figure 4, alignment members (222) comprise prefabricated microspheres (236) set into recesses (238) in the substrate. Figures 4, 5A, 5B and 6 are described beginning on page 11, line 15 and extending to page 16, line 19.

According to a further exemplary embodiment of the invention illustrated in Figure 2C and described beginning on page 13, line 6 and extending to page 13, line 16, multiple base portions (212) fabricated from a single piece of material can be aligned and bonded to multiple lid portions (214) that are fabricated on a single substrate. Each base and lid portion pair can then be parted into their respective interconnect modules (210). By fabricating multiple base and lid portions in a batch

process, only one alignment step is required to align multiple lid portions with their respective base portions.

### **ISSUES**

Whether Claims 1-15, 19, 20, 22 and 25-31 are unpatentable over O'Connor et al. (U.S. Patent No. 6,450,704) in view of Appellants' cited prior art (Figure 1 of the application).

Appellants hereby withdraw their appeal from the Final Rejection of Claims 32 and 33.

### **GROUPING OF CLAIMS**

Claims 1, 2, 3, 5, 7, 10 and 12 stand or fall together. Claims 4 and 6 stand or fall together.

Claim 8 and 28 stand or fall together. Claim 9 stands on its own.

Claims 11 stand on its own.

Claims 13, 14, 15, 19, 20 and 22 stand or fall together.

Claims 25-27 and 29-31 stand or fall together.

**ARGUMENT**

Claims 1, 2-3, 5, 7, 10 and 12

Claim 1 recites an enclosure for an optical communications device that joins with a connector of an optical cable. The enclosure comprises a base portion, a lid portion that has focusing elements and that is affixed to the base portion, the lid portion and base portion adapted to receive at least a portion of the optical communications device therebetween, and at least one alignment member formed on the lid portion and adapted to interface with the connector to align the connector relative to the lid portion.

In rejecting the claims, the Examiner states that O'Connor shows an encasement for a connecting device that comprises a base portion 29, a substrate 11 connectable to the base portion, and alignment pins 28 to create an alignment between a connector and a communications device. The Examiner further states that alignment pins 28 are attached to base 29 by an adhesive, or formed by molding or compression fit processes.

The Examiner acknowledges that O'Connor does not explicitly teach that the lid portion and *base* portion have at least a portion of an optical communications device therebetween, but asserts that this structure is shown in Appellants' cited art in Figure 1.

The Examiner also acknowledges that neither O'Connor nor Appellants' prior art discloses at least one alignment member formed on the lid portion of the enclosure as recited in Claim 1. The Examiner states, however, that the claim limitation of having the alignment member formed on the lid portion does not overcome the prior art reference. Specifically, the Examiner contends that the apparatus functions as a whole, integral apparatus, and that it would be an obvious modification to form the

alignment members on/through any part of the apparatus, since the functionality is the same, i. e., aligning the optical device to the optical cable.

Appellants respectfully disagree with the Examiner's conclusions. The Examiner appears to be taking the position that because alignment members are provided on the enclosures in both O'Connor and the present invention, and are used to align an optical device to an optical cable, any structural differences between O'Connor and the claimed invention is irrelevant and that any enclosure that includes alignment members having the same function as in O'Connor would be unpatentable over the teachings of O'Connor. Appellants submit that the Patent Law does not permit such a conclusion.

In rejecting a claim under 35 U.S.C. 103, an Examiner *has the* burden of establishing *a prima facie* case of obviousness. As set forth in MPEP Section 2142, three basic criteria must be met to establish a *prima facie* case of obviousness. These include:

- Some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.
- A reasonable expectation of success
- The prior art reference or references must teach all the claim limitations.

Appellants submit that the Examiner has failed to satisfy these criteria. O'Connor contains no suggestion or motivation that alignment members can or should be formed on a lid portion of an enclosure, nor has the Examiner shown that such knowledge is generally available to one of ordinary skill in the art. The only

suggestion to form at least one alignment member on a lid portion of an enclosure is contained in the present application

Also, as was acknowledged by the Examiner in the Final Rejection, the cited art does not teach or suggest the claim limitation of forming at least one alignment member on the lid portion.

Therefore, for at least the above reasons, the Examiner has not fulfilled his burden of establishing a *prima facie* case of obviousness.

In rejecting the claims, the Examiner refers to *In re Larson*, 340 F.2d 965, 144 USPQ 347 (C CPA 1965), as support for the position that it would be an obvious modification to form the alignment members of the reference on/through any part of the apparatus, since the functionality is the same. Appellants respectfully submit, however, that *In re Larson* is not at all pertinent to issues of patentability in the present case. *In re Larson* states that whether a brake drum is integral with a clamping means or the brake drum and clamping means comprises separate elements secured together is not a patentable distinction. Whether components are integral or separate components attached together is not the issue, however, in the present case. In the present case, as claimed in Claim 1, alignment members are formed on a lid portion of an enclosure, whereas in O'Connor and in the known prior art described in the present application, alignment members are provided on a base portion of an enclosure and extend through holes in the lid portion. Thus, Claim 1 requires that at least one alignment member be attached to a different component than the alignment members in O'Connor or in the known prior art. *In re Larson*, therefore, is not relevant to the present invention as recited in Claim 1.

For at least the above reasons, Claim 1 is not unpatentable over O'Connor in view of the cited prior art of Appellants, and it is respectfully requested that the



Examiner's Final Rejection of Claim 1 be reversed.

Claims 2, 3, 5, 7, 10 and 12 depend from and further restrict Claim 1, and it is respectfully requested that the Final Rejection of those claims also be reversed, at least by virtue of their dependency.

Claims 4 6 8 11 and 28

As indicated previously, Claims 4 and 6 stand or fall together, Claims 8 and 28 stand or fall together and Claim 11 stands on its own. However, these claims are discussed together herein as they stand finally rejected on the same grounds and their rejections raise the same issues.

Claim 4 depends from Claim 3 and recites a preliminary layer on the lid portion to promote adhesion of a deposited metal, and Claim 6 depends from Claim 1 and recites a preliminary metal layer on the lid portion, and that a prefabricated alignment member comprises metal welded to the preliminary metal layer. The preliminary layer is illustrated at 232 in Figure 3, and is discussed at page 10, lines 17-19.

Claim 8 depends from Claim 1 and Claim 28 depends from Claim 26, and each claim recites that the at least one alignment member is a microsphere. The microsphere is illustrated at 236 in Figure 4, and is discussed on page 11, lines 15-20.

Claim 11 depends from Claim 1 and recites that the at least one alignment member has a flared base portion. The flared base portion is illustrated at 233 in Figure 3, and is discussed on page 11, lines 12-14.

In rejecting each of these claims, the Examiner states: "Although O'Conner '704 does not explicitly state that the alignment members are formed by specific steps/patterning, these limitations do not result in a structure that is readily discernible

from the device disclosed in the prior art (O'Conner) and the structure *being claimed* is therefore completely met by the reference." The Examiner further states that "Applicant is claiming structure, not method, and the USPTO bears a lesser burden when method related limitations result in structure that cannot be readily discerned from structure not having such method-related limitations".

This rejection is respectfully traversed. O'Conner does not disclose a preliminary layer on the lid portion as recited in claims 4 and 6, it does not disclose at least one alignment member comprising a microsphere as recited in Claims 8 and 28, and it does not disclose alignment members having a flared base portion as recited in Claim 11. Each of these claims recites specific structure. They do not recite method-related limitations as alleged by the Examiner. Furthermore, as is clearly illustrated in Figures 3 and 4 of the present application, the structure recited in each claim is clearly discernable from the structure disclosed in O'Conner.

With respect to the subject matter recited in each of Claims 4, 6, 8 and 11 and 28, the Examiner has the burden of establishing *prima facie* obviousness, and this burden is not, in any way, lessened because the claims recite method-related limitations or for any other reason. Claims 4, 6, 8, 11 and 28 do not recite method-related limitations but recite structural limitations. The Examiner acknowledges that O'Conner does not disclose the structural limitations of these claims and has cited no prior art that does disclose the subject matter of these claims. Appellants submit, therefore, that the Final Rejection of Claims 4, 6, 8, 11 and 28 is improper, and, respectfully request that the Final Rejection of the claims be reversed in their own right as well as by virtue of their dependency from other claims.

Claim 9

Claim 9 depends from Claim 1 and recites that the lid portion further comprises at least one recess which receives the at least one alignment member. The at least one recess is illustrated at 236 in the embodiment illustrated in Figure 4 and is discussed on page 11, lines 15-17.

In rejecting Claim 9, the Examiner states only "see lid portion of the alignment members, etc. of O'Conner". This statement is not understood. Initially, as discussed above, in O'Conner, alignment members are provided on the base portion, not on the lid portion. The lid portion in O'Conner includes only apertures through which the alignment members extend. Furthermore, neither the base portion nor the lid portion in O'Conner includes recesses of any kind to receive alignment members.

The cited art, accordingly, does not disclose or suggest the subject matter of Claim 9, and reversal of the Final Rejection of Claim 9 is respectfully requested in its own right as well as by virtue of its dependency from Claim 1.

Claims 13, 14, 15, 19, 20 and 22

Independent Claim 13 is directed to a method of fabricating an optical interconnect device. The method includes steps of forming at least two alignment members on a substrate, and affixing the substrate to a base material with at least a portion of optical-electrical components therebetween. In addition, Claim 13 recites "segmenting the affixed substrate and base material into at least two portions of affixed substrate and base material, each portion having at least one alignment member".

As pointed out in the specification, features such as recited in Claim 13

enable a plurality of optical interconnect devices to be aligned at the same time and then separated into separate devices to provide greater manufacturing efficiencies.

In rejecting Claim 13, the Examiner states only that "the methods are inherent from the device of O'Connor et al." Appellants respectfully disagree. O'Connor nowhere discloses or suggests that the optical interconnect device disclosed therein is manufactured in such a manner that an affixed substrate and base having optical electrical components therebetween are segmented into at least two portions of affixed substrate and base material, each portion having at least one alignment member. There is nothing at all in the disclosure of O'Connor that warrants a conclusion that the specific fabricating procedure recited in Claim 13 is, in any way, inherent from the device of O'Connor. Independent Claim 13 is, accordingly, not obvious over O'Connor in view of Appellants' cited art, and reversal of the Final Rejection of Claim 13 is respectfully requested.

Claims 14, 15, 19, 20 and 22 depend from and further restrict Claim 13 and reversal of the Final Rejection of those claims is also respectfully requested, at least by virtue of their dependency.

Claims 25-27 and 29-31

Claim 25, as amended, is directed to a structure divisible into two or more optical communications devices, each optical communications device having at least one optical electrical device, and each adapted to join with a connector of an optical cable. Claim 25 further recites that the structure comprises a first substrate having at least two optical electrical devices thereon, and a second substrate affixed to the first substrate with the at least two optical electrical devices positioned therebetween. In addition, Claim 25 recites at least two alignment members formed on the second

substrate and each adapted to interface with the connector to align the connector in relation to the second substrate.

In rejecting Claim 25, the Examiner states that O'Conner teaches a plurality of devices in an array, and the devices are positioned between first and second substrates 11 and 29. Appellants respectfully disagree. O'Conner nowhere discloses or suggests a structure that is divisible into two or more optical communications devices, each of which has at least one optical electrical device, and each of which is adapted to join with a connector of an optical cable. O'Conner discloses only a single optical communications device adapted to join with a single connector of an optical cable.

In addition, as was discussed above, O'Conner does not disclose at least two alignment members on the second substrate as recited in Claim 25.

Claim 25 is, accordingly, believed to patentably distinguish over the cited art, and reversal of the Final Rejection of Claim 25 is respectfully requested.

Claims 26, 27 and 29-31 depend from and further restrict Claim 25, and the Final Rejection of those claims should also be reversed, at least by virtue of their dependency.

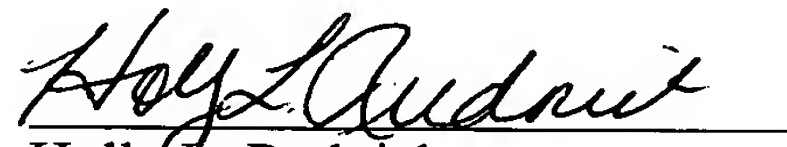
**CONCLUSION**

For all the above reasons, Appellants submit that the Final Rejection of Claims 1-31 is improper, and respectfully request that the Final Rejection be reversed.

Respectfully submitted,

**Kirk Giboney, et al.**

Date: 4/16/04

  
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**APPENDIX OF CLAIMS**

The text of the claims involved in the appeal is:

1. An enclosure for an optical communications device that joins with a connector of an optical cable, the enclosure comprising:  
  
a base portion;  
  
a lid portion having focusing elements and affixed to the base portion, wherein the lid portion and the base portion are adapted to receive at least a portion of the optical communications device therebetween; and  
  
at least one alignment member formed on the lid portion, the alignment member adapted to interface with the connector to align the connector relative to lid portion.
2. The enclosure of claim I wherein the lid portion is recessed to receive at least a portion of the optical communications device therebetween.
3. The enclosure of claim 1 wherein the at least one alignment member is metal deposited into the shape of the at least one alignment member.
4. The enclosure of claim 3 further comprising a preliminary layer on the lid portion to promote adhesion of the deposited metal.
5. The enclosure of claim 1 wherein the at least one alignment member is a prefabricated alignment member bonded to the lid portion.

6. The enclosure of claim 5 further comprising a preliminary metal layer on the lid portion, and wherein the prefabricated alignment member comprises metal welded to the preliminary metal layer.

7. The enclosure of claim I wherein the at least one alignment member is shaped from the lid portion.

8. The enclosure of claim 1 wherein the at least one alignment member is a microsphere.

9. The enclosure of claim I wherein the lid portion further comprises at least one recess which receives the at least one alignment member.

10. The enclosure of claim I wherein at least a portion of the lid portion is transparent and the focusing element is formed into the lid portion.

11. The enclosure of claim 1 wherein the at least one alignment member has a flared base portion.

12. The enclosure of claim I wherein the at least one alignment member is formed on an overlay, and the overlay is affixed to the lid portion.

13. A method of fabricating an optical interconnect device, the optical interconnect device including optical-electrical components for interfacing an optical and an electrical signal, comprising:

forming at least two alignment members on a substrate;

affixing the substrate to a base material with at least a portion of the optical-



electrical components therebetween; and

segmenting the affixed substrate and base material into at least two portions of affixed substrate and base material, each portion having at least one alignment member.

14. The method of claim 13 wherein forming at least two alignment members comprises depositing material in the shape of at least two alignment members.

15. The method of claim 14 further comprising using a mold to shape the deposited material.

16. The method of claim 14 wherein the material is a metal deposited in a chemical vapor deposition process.

17. The method of claim 14 wherein the material is a curable material that bonds with the substrate as it hardens.

18. The method of claim 14 further comprising the step of depositing a preliminary layer on the substrate to promote adhesion of the at least two alignment members.

19. The method of claim 13 wherein forming at least two alignment members comprises molding the at least two alignment members together with the substrate.

20. The method of claim 13 wherein forming the at least two alignment

members comprises machining the substrate to form the at least two alignment members.

21. The method of claim 13 wherein forming the at least two alignment members comprises etching the substrate using photolithography techniques to form the at least two alignment members.

22. The method of claim 14 wherein forming the at least two alignment members on the substrate comprises affixing at least two prefabricated alignment members to the substrate.

23. The method of claim 14 wherein forming the at least two alignment members on the substrate comprises affixing an overlay having at least two alignment members thereon to the substrate.

24. The method of claim 14 further comprising etching the substrate using photolithography techniques to form at least one recess; and

wherein the step of depositing material in the shape of at least two alignment members further comprises depositing material into the at least one recess in the shape of at least one of the at least two alignment members.

25. A structure divisible into two or more optical communication devices, each optical communications device having at least one optical electrical device, and each optical communications device adapted to join with a connector of an optical cable, the structure comprising:

a first substrate having at least two optical electrical devices thereon;

a second substrate affixed to the first substrate with the at least two optical

electrical devices positioned therebetween; and

at least two alignment members formed on the second substrate and each alignment member adapted to interface with the connector to align the connector in relation to the second substrate.

26. The structure of claim 25 wherein at least one of the at least two alignment members is a prefabricated alignment member bonded to the second substrate.

27. The structure of claim 25 wherein at least one of the at least two alignment members is shaped from the second substrate.

28. The structure of claim 26 wherein at least one of the at least two alignment members is a microsphere.

29. The structure of claim 25 further comprising at least two optical components on the second substrate.

30. The structure of claim 26 wherein at least one of the at least two alignment members is formed on an overlay and affixed to the second substrate.

31. The structure of claim 25 wherein at least a portion of the second substrate is transparent and the second substrate further comprises at least two optical devices formed in the second substrate.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Kirk Giboney, et al.

Serial No.: 10/007,494

Examiner: Daniel Petkovsek

Filing Date: November 13, 2001

Group Art Unit: 2874

Title: OPTICAL DEVICE, ENCLOSURE AND METHOD OF FABRICATING

COMMISSIONER FOR PATENTS  
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TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith in **triplicate** is the Appeal Brief in this application with respect to the Notice of Appeal filed on February 17, 2004.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) **\$330.00**.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)(1)-(5)) for the total number of months checked below:

<input type="checkbox"/>	one month	\$ 110.00
<input type="checkbox"/>	two months	\$ 420.00
<input type="checkbox"/>	three months	\$ 950.00
<input type="checkbox"/>	four months	\$1480.00

☐ The extension fee has already been filled in this application.

☒ (b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **50-1078** the sum of **\$330.00**. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-1078** pursuant to 37 CFR 1.25.

A duplicate copy of this transmittal letter is enclosed.

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Date of Deposit: April 16, 2004 OR

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Respectfully submitted,  
Kirk Giboney, et al.

By Holly L. Rudnick

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Date: April 16, 2004

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